

REMARKS

Applicant has amended claims 3 and 4. Applicant respectfully submits that these amendments to the claims are supported by the application as originally filed and do not contain any new matter. Accordingly, the Office Action will be discussed in terms of the claims as amended.

The Examiner has objected to claims 3 and 4 and pointed out an informality. In view of the above amendments to claims 3 and 4, Applicant respectfully requests that the Examiner withdraw her objection.

The Examiner has rejected claims 1, 2, 5(2) and 8(5(2)) under 35 USC 102 as being anticipated by Wickramasinghe et al., stating that Wickramasinghe et al. discloses a heat emitting probe comprising a nanotube probe needle with a base end portion thereof fastened to a holder 24 and a tip end portion 44 thereof protruding, a heat emitting body 52 provided on a circumferential surface of said conductive nanotube needle, a conductive nanotube lead wire fastened to the heat emitting body 52 and means 54 for causing electric current to pass through both ends of said conductive nanotube lead wire and said conductive nanotube probe needle.

In reply thereto, Applicant has carefully reviewed Wickramasinghe et al. and respectfully submits that it does not teach the utilization of a nanotube and instead teaches the utilization of a very fine scanning tip 26 which has a size between 100-5000 Å or in other words, 100 nm to 5000 nm. In contrast thereto, Applicant's invention utilizes a nanotube having a diameter of 1 nm.

In view of the above, Applicant respectfully submits that Wickramasinghe et al. does not teach each and every element of Applicant's invention as claimed and claims 1, 2, 5(2) and 8(5(2)) are not anticipated thereby.

The Examiner has rejected claims 3, 4, 5(3), 5(4) and 8(5(3), 5(4)) under 35 USC 103 as being obvious over Wickramasinghe et al. in view of Suzuki et al., stating that Wickramasinghe et al. discloses a heat emitting probe as claimed, but fails to disclose the utilization of an atomic force microscope cantilever; Suzuki et al. teaches a thermal profiler with an AFM probe; and it would have been obvious to modify Wickramasinghe et al. in view of the teachings of Suzuki et al.

In reply thereto, Applicant would like to incorporate by reference the comments above concerning Applicant's invention and Wickramasinghe et al. In addition, Applicant has carefully

reviewed Suzuki et al. and respectfully submits that Suzuki et al. teaches a heat topograph measuring device which is quite different from Wickramasinghe et al. and does not teach a cantilever utilizing a nanotube probe.

In view of the above, therefore, Applicant respectfully submits that not only is the combination suggested by the Examiner not Applicant's invention but also the combination suggested by the Examiner is not suggested by the art. Therefore, Applicant respectfully submits that the claims are not obvious over Wickramasinghe et al. in view of Suzuki et al.

The Examiner has rejected claim 6(5(2)) under 35 USC 103 as being obvious over Wickramasinghe et al. in view of Hamann, stating that Wickramasinghe et al. discloses a heat emitting probe as claimed, but fails to disclose said sample being a thermal recording medium and said tip end of said conductive nanotube probe needle being heated by said heat emitting probe; Hamann teaches the use of a heat emitting probe 116 in a magnetic thermal recording and reproducing assembly; and it would have been obvious to one of ordinary skill in the art to modify Wickramasinghe et al. in view of the teachings of Hamann.

In reply thereto, Applicant would like to incorporate by reference the comments above concerning Applicant's invention and Wickramasinghe et al. In addition, Applicant has carefully reviewed Hamann and respectfully submits that while Hamann may disclose the use of an AFM probe, the dimensions of Hamann are not micrometer size and as the smallest comprise 20 nm in diameter. Clearly, such a dimension is not a nanotube in the sense of Applicant's invention which requires that the nanotube be of 1 nm in diameter.

In view of the above, therefore, Applicant respectfully submits that not only is the combination suggested by the Examiner not Applicant's invention but also the combination suggested by the Examiner is not suggested by the art. Therefore, Applicant respectfully submits that the claim is not obvious over Wickramasinghe et al. in view of Hamann.

The Examiner has further rejected claim 6(5(3)) and 6(5(4)) under 35 USC 103 as being obvious over Wickramasinghe et al. in view of Suzuki et al. and further in view of Hamann, stating that Wickramasinghe et al. and Suzuki et al. disclose a heat emitting probe as claimed, but fail to disclose that the sample is a thermal recording medium and that the tip end of said conductive nanotube probe needle is heated by said heat emitting probe; Hamann teaches the use of an AFM probe having a heat emitting structure/heat source in a magnetic thermal recording

and reproducing assembly; and it would have been obvious to modify the combination of Wickramasinghe et al. and Suzuki et al. in view of the teachings of Hamann.

In reply thereto, Applicant would like to incorporate by reference the comments above concerning Applicant's invention, Wickramasinghe et al. and Suzuki et al. and Hamann. As a result, Applicant respectfully submits that not only is the combination suggested by the Examiner not Applicant's invention but also the combination suggested by the Examiner is not suggested by the art. Therefore, Applicant respectfully submits that claim 6(5(3)) and 6(5(4)) is not obvious Wickramasinghe et al. in view of Suzuki et al. and further in view of Hamann.

The Examiner has rejected claim 7(5(2)) under 35 USC 103 as being obvious over Wickramasinghe et al. in view of Fischer, stating that Wickramasinghe et al. discloses a heat emitting probe as claimed, but fails to disclose detecting thermal conductivity distribution of the sample surface by means of variations; Fischer shows the use of a thermoelectric microprobe; and it would have been obvious to modify Wickramasinghe et al. in view of the teachings of Fischer.

In reply thereto, Applicant would like to incorporate by reference the comments above concerning Applicant's invention and Wickramasinghe et al. In addition, Applicant has carefully reviewed Fischer and respectfully submits that the micro probe thereof has a radius of 10 nm and as such is substantially bigger than the 1 nm diameter nanotube of Applicant's invention. Accordingly, Applicant respectfully submits that not only is the combination suggested by the Examiner not Applicant's invention but also the combination suggested by the Examiner is not suggested by the art. Therefore, Applicant respectfully submits that claim 7(5(2)) is not obvious over Wickramasinghe et al. in view of Fischer.

The Examiner has rejected claim 7(5(3)) and 7(5(4)) under 35 USC 103 as being obvious over Wickramasinghe et al. in view of Suzuki et al. and further in view of Fischer, stating that the combination of Wickramasinghe et al. and Suzuki et al. disclose the heat emitting probe as claimed, but fail to disclose detecting thermal conductivity distribution; Fischer shows the use of a thermoelectric microprobe; and it would have been obvious to modify the combination of Wickramasinghe et al. and Suzuki et al. in view of the teachings of Fischer.

In reply thereto, Applicant would like to incorporate by reference the comments above concerning Applicant's invention, Wickramasinghe et al., Suzuki et al. and Fischer and respectfully submits that not only is the combination suggested by the Examiner not Applicant's

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invention but also the combination suggested by the Examiner is not suggested by the art. Therefore, Applicant respectfully submits that claim 7(5(3)) and 7(5(4)) is not obvious over Wickramasinghe et al. in view of Suzuki et al. and further in view of Fischer.

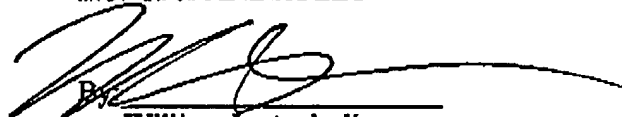
Applicant further respectfully and retroactively requests a three month extension of time so as to respond to the Office Action. Please charge Deposit Account No. 11-1445 in the sum of \$930.00 as the fee.

In view of the above, therefore, it is respectfully requested that this Amendment be entered, favorably considered and the case passed to issue.

Please charge any additional costs incurred by or in order to implement this Amendment or required by any requests for extensions of time to KODA & ANDROLIA DEPOSIT ACCOUNT NO. 11-1445.

Respectfully submitted,

KODA & ANDROLIA


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